

Project Summary Sheet

Project Name: Deer Creek Flood Corridor Protection Project-Phase I

Tracking No: 200784118

Location: The project is located in the lower Deer Creek watershed in Tehama County, extending from Deer Creek's confluence with the Sacramento River near the town of Vina up to where Deer Creek exits the canyon and enters the valley floor.

County: Tehama

Project Sponsor: Deer Creek Watershed Conservancy

Point of Contact: Holly Savage, Watershed Coordinator, (530) 781-2220

Co-applicant(s): None

Assembly District: #2 Doug La Malfa **Senate District:** #4 Sam Aanestad

Project Summary: There are five primary project elements or objectives proposed as under Phase I of the Lower Deer Creek Flood Protection Corridor Project. They are as follows:

1. Purchase flood easement within agricultural land with high flood risk along a 2.54-mile reach of the south side of lower Deer Creek. The flood easement on the Berens and Hamilton properties will be incorporated into a planned levee setback.
2. Conduct one and two dimensional 100-year floodplain modeling for lower Dry Creek.
3. Complete feasibility study on 100-year setback levee including the Berens and Hamilton easement properties.
4. Prepare final engineering design and specifications for the setback levee.
5. Prepare environmental documentation in accordance with CEQA and NEPA.

Flood Benefits: The project site will connect historical floodplain to Deer Creek and will increase transitory storage and the conveyance capacity of the flood control system.

Agricultural Benefits: N/A

Agricultural Land Conserved: Applicant: The site is currently used for cattle grazing. Grazing productivity is maximized with the use of rotational grazing and irrigation. Irrigation systems and other related infrastructure are in place. There is potential for a similar flood easement on the parcel downstream of the site; many ranches in the area have conservation easements in place. Land use nearby is irrigated pasture and native grass grazing. The project will benefit neighboring farm operations due to increased flood protection.

Wildlife Benefits: The Lower Deer Creek project will increase important riparian forest habitat for used by a number of special status species (spring-run Chinook salmon, Valley Elderberry Long-horn Beetle, Western Yellow-billed cuckoo).

Total area conserved: 151 acres. Flood easements on Berens and Hamilton properties will be incorporated into a planned levee setback. The levee construction is not yet funded.

Other Benefits: On March 7th, 2008, Flood Protection Corridor Program received a letter of support from Fred Hamilton, and Bill Berens. Both individuals expressed their willingness to allow the construction of a setback levee and flood easement on their respective properties, provided there is adequate compensation to keep their operation intact and provided they receive improved and extended irrigation to maintain their current production levels.

Total Cost: \$986,000, original request. *The Project Administration (PA) budget was not included in the total amount requested. The Grant Request Amount should be \$1,109,600.

FPCP Cost: \$986,000, original request. *The PA budget was not included in the total amount requested. The Grant Request Amount should be \$1,109,600.

Funding Partners and Share of Cost: N/A

Supplemental Information:

1. Is there a full hydrologic report with the application, or is there simply an engineer's opinion? Either way, what is the conclusion as to the anticipated flood benefits of the project? Response: Yes, a 1-D HEC-RAS hydraulic model was developed for the project reach of Lower Deer Creek using the Corps of Engineers HEC-RAS computer software (USACE, 2005) and a 2-D hydrodynamic model was developed using UnTRIM.

The model results indicate the main channel is able to contain flows up to the 2-year peak discharge (5,480 cfs). The project reach was divided into 12 subreaches based on the locations of control structures and trends in hydraulic parameters. Model results indicate levees constructed by the Corps of Engineers in 1948 do not contain the design discharge of 21,000 cfs with the prescribed 3 feet of freeboard. Significant backwater effects are created by the Sacramento River, the UPRR Bridge and Red Bridge at flows above 11,000 cfs.

2. If the project applicant indicated they could accept less – then what (if anything) would be cut from the project? (What is lost by providing less FPCP grant money?) Response: The applicant did not indicate they could accept less.
 - a. When giving a project score credit for matching funds, how much of the funding is matched? What is the source of the matching funds and are the

matching funds already committed? Response: The Nature Conservancy is providing staff time and additional funding to acquire expanded agricultural conservation easements on lands beyond the setback levees to increase agricultural protection and infrastructure in the Deer Creek watershed. Applicant stated they will secure additional funding to complete each additional phase of the project. Other funds have been leveraged from CALFED, and the California Department of Conservation.

3. If there is funding for acquisition of property, what is the type of ownership? Easement? Fee title? Or Both? Response: Easement
 - a. Who will own the easement or fee title? DWR? Project applicant? Other? Response: The original proposal requested funds to purchase an easement on Greg Harlan's land, located downstream from Berens and Hamilton. In this revised budget/proposal, Deer Creek Conservancy requests funds to purchase an easement on Fred Hamilton's property (letter sent to Earl Nelson) in lieu of Harlan's property. Both landowners, Berens and Hamilton, will retain ownership of their land and The Nature Conservancy will hold the flood easement.
4. Does any portion of the project site have mitigation bank potential for DWR to gain mitigation credits for its maintenance program? (Note: Mitigation property would need to be within 40 miles of the disturbance area that needs to be mitigated) Response: Yes.
5. Is the project a USACE authorized project? If so, is there USACE funding for the project? Should the USACE be fully funding the project? Response: The project involves USACE levees; however the USACE is not funding the set back levees.

At present, to maintain the level of flood protection the system was designed for requires the removal of riparian vegetation and sediment from the channel and between the levees. In addition, the flood control levees frequently sustain significant and costly damage. The new system would be designed to alleviate these problems. Currently repairs costing an estimated \$558,000 are being carried out by the DWR and the Tehama County Flood Control and Water Conservation District on the segment of levee downstream of Leininger Road. These repairs are being funded through the US Army Corps of Engineers Public Law 84-99 (PL 84-99) program. Similar repairs were carried out in 1962, 1983, 1986, and 1997. In 1997, the PL 84-99 program made repairs at an approximate cost of \$206,740. The vegetation and sediment clearing also comes at substantial cost to the public. This was last conducted by DWR in 1986 and plans are being developed to do it again in the near future at substantial cost to the taxpayer and the environment.

6. Can the management of transitory water storage on the site be optimized for flood benefit? Is the applicant willing to work with DWR on water management during

extreme flood events? Response: Water management is not an option with set back levees as configured for this project. Future phase may include modification of diversion dam to bladder dam which would allow some ability to modify the conveyance capacity of the system seasonally.

**Tasks and Budget for the Deer Creek Flood Protection Corridor Project
Phase I (36 months)**

| TASK | CONSULTANT | COST |
|---|----------------------------|--------------------------|
| PROJECT ADMINISTRATION | DCWC | \$93,600 * |
| FLOODWATER PASSAGE EASEMENTS | | (\$4,000 per acre) |
| Berens Property--86 acres | Nature Conservancy | \$344,000 ** |
| Hamilton Property--65 acres | Nature Conservancy | \$260,000 *** |
| MODELING TO 100-YEAR FLOOD LEVEL | | |
| Surveys | Mussetter Engineering | \$50,000 |
| Numerical Modeling | Mussetter Engineering | \$50,000 |
| FEASIBILITY STUDY FOR SETBACK LEVEE | | |
| Feasibility Survey | Mussetter Engineering | \$30,000 |
| P&S Study | Geotech | \$50,000 |
| P&S Cost Estimation | Geotech | \$50,000 |
| ENVIRONMENTAL REGULATORY PROCESS AND PUBLIC OUTREACH | | |
| Stakeholder Evolvment and Public Outreach | DCWC/Mussetter Engineering | \$20,000 |
| Environmental Documentation/Public Scoping | | \$80,000 |
| Permitting | | \$60,000 |
| Biological Surveys | | \$22,000 |
| TOTAL ESTIMATED COST | | \$1,109,600 ***** |

*The PA budget was miscalculated in the original application and not included in the total amount requested. The total PA budget amount should be **\$93,600** (approximately 10% of the total project budget).

The easement amt. was miscalculated in the original application. The total easement purchase amount should be **\$344,000.

The original easement amt. was calculated for Harlan's property (135 acres) in the original application. The total easement purchase amount for Hamilton's property is **\$260,000.

***The total estimated cost w/the correct PA budget amount should total **\$1,109,600**.